

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT5319870

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
HESAAM ESFANDYARPOUR	03/10/2014
KOSAR BAGHBANI PARIZI	03/18/2014
MARK F. OLDHAM	07/10/2013
ERIC S. NORDMAN	03/05/2014
RICHARD T. REEL	03/19/2014
SUSANNE BAUMHUETER	03/31/2014
CHERYL HEINER	04/10/2014
FRANK LEE	03/27/2014
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	GENAPSYS, INC.
<b>Street Address:</b>	200 CARDINAL WAY
<b>Internal Address:</b>	THIRD FLOOR
<b>City:</b>	REDWOOD CITY
<b>State/Country:</b>	CALIFORNIA
<b>Postal Code:</b>	94063
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	16007829
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(650)493-6811
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
<b>Phone:</b>	650-493-9300
<b>Email:</b>	natalie.morgan@wsgr.com
<b>Correspondent Name:</b>	WILSON SONSINI GOODRICH & ROSATI
<b>Address Line 1:</b>	650 PAGE MILL ROAD
<b>Address Line 4:</b>	PALO ALTO, CALIFORNIA 94304
<b>ATTORNEY DOCKET NUMBER:</b>	42808-701.308
<b>NAME OF SUBMITTER:</b>	NATALIE MORGAN

<b>SIGNATURE:</b>	/Natalie Morgan/
<b>DATE SIGNED:</b>	01/10/2019
<b>Total Attachments: 7</b> source=GenapSys 42808-701.832 Executed Assignment#page1.tif source=GenapSys 42808-701.832 Executed Assignment#page2.tif source=GenapSys 42808-701.832 Executed Assignment#page3.tif source=GenapSys 42808-701.832 Executed Assignment#page4.tif source=GenapSys 42808-701.832 Executed Assignment#page5.tif source=GenapSys 42808-701.832 Executed Assignment#page6.tif source=GenapSys 42808-701.832 Executed Assignment#page7.tif	

PATENT ASSIGNMENT

Docket Number 42808-701.832

WHEREAS, the undersigned:

- |  |   |   |                                      |
|--|---|---|--------------------------------------|
| 1. ESFANDYARPOUR, Hesaam<br>Redwood City, CA | 2. PARIZI, Kosar Baghbani<br>Redwood City, CA | 3. OLDHAM, Mark F.<br>Emerald Hills, CA | 4. NORDMAN, Eric S.<br>Palo Alto, CA |
| 5. REEL, Richard T.<br>Hayward, CA           | 6. BAUMHUETER, Susanne<br>Redwood City, CA    | 7. HEINER, Cheryl<br>La Honda, CA       | 8. LEE, Frank<br>Irvine, CA          |

(hereinafter "Inventor(s)), have invented certain new and useful improvements in

SYSTEMS AND METHODS FOR GENETIC AND BIOLOGICAL ANALYSIS

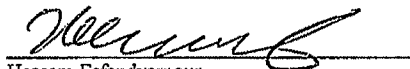

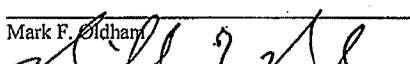
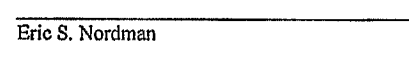
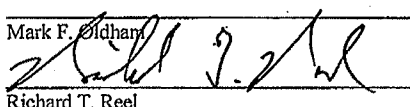
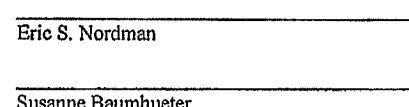

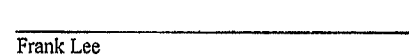
- for which application serial number 14/119,859 was filed on November 22, 2013 in the United States Patent and Trademark Office;
- for which application serial number PCT/US12/39880 was filed on May 29, 2012 in the U.S. Receiving Office of the Patent Cooperation Treaty;

WHEREAS, GENAPSYS, INC., a corporation of the State of Delaware, having a place of business at 640 Galveston Drive, Redwood City, CA 94063, (hereinafter "Assignee"), is desirous of acquiring the entire right, title and interest in and to said Application(s), and the inventions disclosed therein, and in and to all embodiments of the inventions, heretofore conceived, made or discovered, whether jointly or severally, by said Inventor(s) (hereinafter collectively referred to as "Inventions"), and in and to any and all patents, inventor's certificates and other forms of protection thereon granted in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty, including those filed under the Paris Convention for the Protection of Industrial Property, The Patent Cooperation Treaty or otherwise (hereinafter "Patent(s)").

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Inventor(s) to have been received in full from said Assignee:

1. Said Inventor(s) do hereby sell, assign, transfer and convey unto said Assignee the entire right, title and interest (a) in and to said Inventions; (b) in and to said Applications, including the right to claim priority to and from said Application(s); (c) in and to each and every application that is a divisional, substitution, continuation, or continuation-in-part of any of said Application(s); (d) in and to said Patent(s) and each and every patent issuing or reissuing from any of the foregoing; (e) in and to each and every reissue, reexamination, renewal or extension of any kind of any of the foregoing; and (f) in and to each and every patent and application filed outside the United States and corresponding to any of the foregoing.
2. Said Inventor(s) hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest herein conveyed in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty. Such cooperation by said Inventor(s) shall include prompt production of pertinent facts and documents, giving of testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any applications covering said Inventions; (c) for filing and prosecuting substitute, divisional, continuing or additional applications covering said Inventions; (d) for filing and prosecuting applications for reissuance of any said Patent(s); (e) for interference or other priority proceedings involving said Inventions; and (f) for legal proceedings involving said Inventions and any applications therefor and any Patent(s) granted thereon, including without limitation reissues and reexaminations, opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that reasonable expenses incurred by said Inventor(s) in providing such cooperation shall be paid for by said Assignee.
3. The terms and covenants of this assignment shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Inventor(s), their respective heirs, legal representatives and assigns.
4. Said Inventor(s) hereby warrant, represent and covenant that said Inventor(s) have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.
5. Said Inventor(s) hereby request that any Patent(s) issuing in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty, be issued in the name of the Assignee, or its successors and assigns, for the sole use of said Assignee, its successors, legal representatives and assigns.
6. This instrument will be interpreted and construed in accordance with the laws of the State of California, without regard to conflict of law principles. If any provision of this instrument is found to be illegal or unenforceable, the other provisions shall remain effective and enforceable to the greatest extent permitted by law. This instrument may be executed in counterparts, each of which is deemed an original, but all of which together constitute one and the same agreement.

IN WITNESS WHEREOF, said Inventor(s) have executed and delivered this instrument to said Assignee as of the dates written below:

Date: 3/10/14		Date: 3-18-14	
	Hesaam Esfandyarpour		Kosar Baghbani Parizi
Date: _____		Date: _____	
	Mark F. Oldham		Eric S. Nordman
Date: 3/19/14		Date: _____	
	Richard T. Reel		Susanne Baumhueter
Date: _____		Date: _____	
	Cheryl Heiner		Frank Lee

## CONFIRMATORY ASSIGNMENT

I, Mark Oldham, residing at 738 Glenmere Way, Emerald Hills, Ca 94062 United States of America, citizen of US (the "assignor"); do acknowledge that:

In accordance with the Consulting Agreement dated February 9, 2011 between ASSIGNOR and GENAPSYS INCORPORATED (the "assignee"), having a place of business at 640 Galveston Drive, Redwood City, CA 94063, my entire right, title and interest in the patent applications listed below (and expressly including the right to file U.S. and foreign applications under the provisions of any law, convention, or treaty, and the right to claim priority to such patent applications), was transferred to ASSIGNEE by virtue of said Agreement.

United States Provisional Application No. 61/491,081 filed May 27, 2011 entitled "METHODS AND SYSTEMS FOR NUCLEIC ACID SEQUENCING",

United States Provisional Application No. 61/565,651, filed December 1, 2011 entitled "GENIUS ELECTRONIC SEQUENCING TECHNOLOGIES AND METHODS THEREFOR",

United States Provisional Application No. 61/620,381, April 4, 2012 entitled "METHODS AND SYSTEMS FOR NUCLEIC ACID ANALYSIS",

PCT/US2011/054769 filed 4 October 2011 entitled "SYSTEMS AND METHODS FOR AUTOMATED REUSABLE PARALLEL BIOLOGICAL REACTIONS",

PCT/US2012/039880 filed May 29, 2012 entitled "SYSTEMS AND METHODS FOR GENETICS AND BIOLOGICAL ANALYSIS",

PCT/US2012/067645 filed December 3, 2012 entitled "SYSTEMS AND METHODS FOR HIGH EFFICIENCY ELECTRONIC SEQUENCING AND DETECTION",

United States Patent Application No. 13/397,581 filed February 15, 2012 entitled "METHODS AND SYSTEMS FOR ELECTRONIC SEQUENCING",

United States Patent Application No. 13/632,513 filed October 1, 2012 entitled "METHODS AND SYSTEMS FOR ELECTRONIC SEQUENCING",

All divisional, continuing, substitute, renewal, reissue applications for patent which have or shall be filed in the United States and foreign countries on any such applications; all original and reissued patents which have been or shall issue in the United States and all foreign countries on such patent applications;


I AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted to the Assignee;

MFO

WARRANT AND COVENANT that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been or will be made to others by the undersigned, and that the full right to convey the same as herein expressed is possessed by the undersigned.

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this confirmatory assignment, the undersigned will execute all faithful oaths, truthful declarations, assignments, powers of attorney, and other papers; communicate to the Assignee all facts known to the undersigned relating to such patent applications and the history thereof; and generally do everything possible for which the Assignee shall consider desirable for vesting title to such patent applications in the Assignee, and for securing, maintaining, and enforcing proper patent protection for such patent applications, provided Assignor shall not be compelled to take any action that is inconsistent with patent law or PTO policy and procedures;

TO BE BINDING on the heirs, assigns, representatives, and successors of the undersigned and extend to the successors, assigns, and nominees of the Assignee.

Signature: 

Date: 7/10/2013

Name Mark F. Oldham

MFO

PATENT ASSIGNMENT

Docket Number 42808-701.832

WHEREAS, the undersigned:

- |  |   |   |                                      |
|--|---|---|--------------------------------------|
| 1. ESFANDYARPOUR, Hesaam<br>Redwood City, CA | 2. PARIZI, Kosar Baghbani<br>Redwood City, CA | 3. OLDHAM, Mark F.<br>Emerald Hills, CA | 4. NORDMAN, Eric S.<br>Palo Alto, CA |
| 5. REEL, Richard T.<br>Hayward, CA           | 6. BAUMHUETER, Susanne<br>Redwood City, CA    | 7. HEINER, Cheryl<br>La Honda, CA       | 8. LEE, Frank<br>Irvine, CA          |

(hereinafter "Inventor(s)"), have invented certain new and useful improvements in

SYSTEMS AND METHODS FOR GENETIC AND BIOLOGICAL ANALYSIS

- for which application serial number 14/119,859 was filed on November 22, 2013 in the United States Patent and Trademark Office;
- for which application serial number PCT/US12/39880 was filed on May 29, 2012 in the U.S. Receiving Office of the Patent Cooperation Treaty;

WHEREAS, GENAPSYS, INC., a corporation of the State of Delaware, having a place of business at 640 Galveston Drive, Redwood City, CA 94063, (hereinafter "Assignee"), is desirous of acquiring the entire right, title and interest in and to said Application(s), and the inventions disclosed therein, and in and to all embodiments of the inventions, heretofore conceived, made or discovered, whether jointly or severally, by said Inventor(s) (hereinafter collectively referred to as "Inventions"), and in and to any and all patents, inventor's certificates and other forms of protection thereon granted in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty, including those filed under the Paris Convention for the Protection of Industrial Property, The Patent Cooperation Treaty or otherwise (hereinafter "Patent(s)").

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Inventor(s) to have been received in full from said Assignee:

1. Said Inventor(s) do hereby sell, assign, transfer and convey unto said Assignee the entire right, title and interest (a) in and to said Inventions; (b) in and to said Applications, including the right to claim priority to and from said Application(s); (c) in and to each and every application that is a divisional, substitution, continuation, or continuation-in-part of any of said Application(s); (d) in and to said Patent(s) and each and every patent issuing or reissuing from any of the foregoing; (e) in and to each and every reissue, reexamination, renewal or extension of any kind of any of the foregoing; and (f) in and to each and every patent and application filed outside the United States and corresponding to any of the foregoing.
2. Said Inventor(s) hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest herein conveyed in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty. Such cooperation by said Inventor(s) shall include prompt production of pertinent facts and documents, giving of testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any applications covering said Inventions; (c) for filing and prosecuting substitute, divisional, continuing or additional applications covering said Inventions; (d) for filing and prosecuting applications for reissuance of any said Patent(s); (e) for interference or other priority proceedings involving said Inventions; and (f) for legal proceedings involving said Inventions and any applications therefor and any Patent(s) granted thereon, including without limitation reissues and reexaminations, opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that reasonable expenses incurred by said Inventor(s) in providing such cooperation shall be paid for by said Assignee.
3. The terms and covenants of this assignment shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Inventor(s), their respective heirs, legal representatives and assigns.
4. Said Inventor(s) hereby warrant, represent and covenant that said Inventor(s) have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.
5. Said Inventor(s) hereby request that any Patent(s) issuing in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty, be issued in the name of the Assignee, or its successors and assigns, for the sole use of said Assignee, its successors, legal representatives and assigns.
6. This instrument will be interpreted and construed in accordance with the laws of the State of California, without regard to conflict of law principles. If any provision of this instrument is found to be illegal or unenforceable, the other provisions shall remain effective and enforceable to the greatest extent permitted by law. This instrument may be executed in counterparts, each of which is deemed an original, but all of which together constitute one and the same agreement.

IN WITNESS WHEREOF, said Inventor(s) have executed and delivered this instrument to said Assignee as of the dates written below:

Date: _____ Hesaam Esfandyarpour	Date: _____ Kosar Baghbani Parizi
Date: _____ Mark F. Oldham	Date: Mar 5, 2014 Eric S. Nordman
Date: _____ Richard T. Reel	Date: _____ Susanne Baumhueter
Date: _____ Cheryl Heiner	Date: _____ Frank Lee

WHEREAS, the undersigned:

- |  |   |   |                                      |
|--|---|---|--------------------------------------|
| 1. ESFANDYARPOUR, Hesaam<br>Redwood City, CA | 2. PARIZI, Kosar Baghbani<br>Redwood City, CA | 3. OLDHAM, Mark F.<br>Emerald Hills, CA | 4. NORDMAN, Eric S.<br>Palo Alto, CA |
| 5. REEL, Richard T.<br>Hayward, CA           | 6. BAUMHUETER, Susanne<br>Redwood City, CA    | 7. HEINER, Cheryl<br>La Honda, CA       | 8. LEE, Frank<br>Irvine, CA          |

(hereinafter "Inventor(s)), have invented certain new and useful improvements in

**SYSTEMS AND METHODS FOR GENETIC AND BIOLOGICAL ANALYSIS**

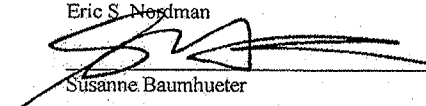
- for which application serial number 14/119,859 was filed on November 22, 2013 in the United States Patent and Trademark Office;
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Date: _____ Mark F. Oldham	Date: _____ Eric S. Nordman
Date: _____ Richard T. Reel	Date: <u>3/31/14</u>  Susanne Baumhueter
Date: _____ Cheryl Heiner	Date: _____ Frank Lee

PATENT ASSIGNMENT

Docket Number 42808-701.832

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Date: _____	_____	Date: _____	_____
	Hesaam Esfandyarpour		Kosar Baghbani Parizi
Date: _____	_____	Date: _____	_____
	Mark F. Oldham		Eric S. Nordman
Date: _____	_____	Date: _____	_____
	Richard T. Reel		Susanne-Baumhueter
Date: 9/10/14	_____	Date: _____	_____
	Cheryl Hejner		Frank Lee



WHEREAS, the undersigned:

- 1. ESFANDYARPOUR, Hesaam Redwood City, CA
- 2. PARIZI, Kosar Baghbani Redwood City, CA
- 3. OLDHAM, Mark F. Emerald Hills, CA
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(hereinafter "Inventor(s)"), have invented certain new and useful improvements in

SYSTEMS AND METHODS FOR GENETIC AND BIOLOGICAL ANALYSIS

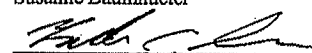
- for which application serial number 14/119,859, was filed on November 22, 2013 in the United States Patent and Trademark Office;
- for which application serial number PCT/US12/39880 was filed on May 29, 2012 in the U.S. Receiving Office of the Patent Cooperation Treaty;

WHEREAS, GENAPSYS, INC., a corporation of the State of Delaware, having a place of business at 640 Galveston Drive, Redwood City, CA 94063, (hereinafter "Assignee"), is desirous of acquiring the entire right, title and interest in and to said Application(s), and the inventions disclosed therein, and in and to all embodiments of the inventions, heretofore conceived, made or discovered, whether jointly or severally, by said Inventor(s) (hereinafter collectively referred to as "Inventions"), and in and to any and all patents, inventor's certificates and other forms of protection thereon granted in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty, including those filed under the Paris Convention for the Protection of Industrial Property, The Patent Cooperation Treaty or otherwise (hereinafter "Patent(s)").

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Inventor(s) to have been received in full from said Assignee:

1. Said Inventor(s) do hereby sell, assign, transfer and convey unto said Assignee the entire right, title and interest (a) in and to said Inventions; (b) in and to said Applications, including the right to claim priority to and from said Application(s); (c) in and to each and every application that is a divisional, substitution, continuation, or continuation-in-part of any of said Application(s); (d) in and to said Patent(s) and each and every patent issuing or reissuing from any of the foregoing; (e) in and to each and every reissue, reexamination, renewal or extension of any kind of any of the foregoing; and (f) in and to each and every patent and application filed outside the United States and corresponding to any of the foregoing.
2. Said Inventor(s) hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest herein conveyed in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty. Such cooperation by said Inventor(s) shall include prompt production of pertinent facts and documents, giving of testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any applications covering said Inventions; (c) for filing and prosecuting substitute, divisional, continuing or additional applications covering said Inventions; (d) for filing and prosecuting applications for reissuance of any said Patent(s); (e) for interference or other priority proceedings involving said Inventions; and (f) for legal proceedings involving said Inventions and any applications therefor and any Patent(s) granted thereon, including without limitation reissues and reexaminations, opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that reasonable expenses incurred by said Inventor(s) in providing such cooperation shall be paid for by said Assignee.
3. The terms and covenants of this assignment shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Inventor(s), their respective heirs, legal representatives and assigns.
4. Said Inventor(s) hereby warrant, represent and covenant that said Inventor(s) have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.
5. Said Inventor(s) hereby request that any Patent(s) issuing in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty, be issued in the name of the Assignee, or its successors and assigns, for the sole use of said Assignee, its successors, legal representatives and assigns.
6. This instrument will be interpreted and construed in accordance with the laws of the State of California, without regard to conflict of law principles. If any provision of this instrument is found to be illegal or unenforceable, the other provisions shall remain effective and enforceable to the greatest extent permitted by law. This instrument may be executed in counterparts, each of which is deemed an original, but all of which together constitute one and the same agreement.

IN WITNESS WHEREOF, said Inventor(s) have executed and delivered this instrument to said Assignee as of the dates written below:

Date: _____	Hesaam Esfandyarpour	Date: _____	Kosar Baghbani Parizi
Date: _____	Mark F. Oldham	Date: _____	Eric S. Nordman
Date: _____	Richard T. Reel	Date: _____	Susanne Baumhueter
Date: _____	Cheryl Heiner	Date: 3-27-14	 Frank Lee